Abstract

RE superconductive layer of high critical current density (Jc) is superimposed on an interlayer formed so as to, while ensuring cracking prevention, excel in crystallinity, such as in-plane orientation degree and direction, and surface smoothness. On an oriented Ni substrate, there are sequentially superimposed an interlayer of cerium oxide loaded with 20 to 60 mol%, in terms of metal content, of one or at least two rare earth elements according to MOD technique and an RE superconductive layer of high Jc according to MOD technique. The above interlayer is formed by mixing a Gd, Y and/or Yb organometallic compound solution with a Ce organometallic compound solution, applying the mixed solution onto an oriented Ni substrate so as to form a coating film and subjecting the coating film to calcination heat treatment and thereafter firing in an $Ar-H_2$ atmosphere at 950 to 1150° C under a pressure of 50 to 500 Pa. YBCO superconductive layer is formed on this interlayer according to TFA-MOD technique.